IMOTION Software Suite

MediaSpy Release Note

Package 3.1.1

August 4, 2011

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Publication Information

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Generality / Overview of the Product or Application

This document is the release notes of IMOTION MediaSpy application.

IMOTION MediaSpy application is used to :
- Spy devices,
- Save device information (Media and Storage information) in a persistent storage,
- Advise Clients of change in device ,
- Logs information (with level of log (Error/Warning/Information/Normal/Verbose)),
- Display status of configured device and client.

The IMotion MediaSpy is the media resolver in a system.

MediaSpy Applicable Document

Edition	Date	Description	Author(s)
0.1	May 4, 2003	MediaSpy Requirements described in the document „MRD Media Spy.doc"	-
0.4	March 12, 2004	QA Reporting (document « QA MediaSpy version 0.0.0.2.doc »)	Laurent Gautier
1.2	December 2009	IMOTION Database - Release Notes.doc (obsolete document – See Core RN)	Laurent Gautier

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Installation - Setup

Requirements

Server (Engines) Requirements	
Type	**Requirements**
Hardware	Pentium 4 CPU 3GHz minimum 2 GB of RAM minimum
Software Operating System	.Net 2.0 minimum - Windows XP Pro SP2 minimum - Windows Server 2003/2008 Enterprise Edition - Windows Vista / Seven Pro
Service Pack Level	
Configuration/Parameters	TCP/IP Gigabits Ethernet network
Other	ODBC Driver.

Supported Devices/Hardware

<not applicable>

Files Name(s)

File Version	Files Included	Ext.	Description
3.1.1.2	MediaSpy	Exe	Main application
1.0.0.1	DatabaseManager	Dll	Dll used to access database through ODBC
1.5.2.0	PersistantStorage	Dll	Dll used to access IMOTION database
1.2.1.0	Logger	Dll	Dll used to log message in file

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1.1.1.0	HASPlugInMediaSpyWrapper	Dll	Dll used like a wrapper of plugins
1.2.0.0	hasPluginInspector	Ocx	ActiveX used by application to read/write plugin parameters (version and configuration)
1.0.1.0	HarrisAboutBox	Dll	Dll to display the Harris About box
1.1.0.0 1.0.0.0	IMMDongleReader IMMDongleCommon	Dll	Dlls to manage the software dongle.
1.0.1.0	base64	Dll	Dll tools for Metadata translation.
-	Stop, Warning Information	Ico	Icon used by Logger

After installation and running, MediaSpy application create some data files, i.e. :
- logs files named “MediaSpy log yyymmdd-hh.log”,
- configuration file for application named “MediaSpy.ini”

Files Location

MediaSpy package is available on IMOTION share point (Software/Download) :

I-Motion Share Point

or using DongleManager application.

MediaSpy Compatibility Matrix

Package Name & Version	
IMotion Database	3.1.1+
CoRe Service	3.1.1+
ContentHandler	3.1.1+
TransferMonitor	3.1.1+

Installation / Uninstallation Steps

- MediaSpy Installation
  1. Install .Net 2.0 Framework if not installed

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2. The MediaSpy application is packaged in an MSI script. So, launch “setup.exe” on MediaSpy CD and follow the instructions.

- MediaSpy Uninstallation

1. The MediaSpy can be uninstalled by using “Add/Remove” Programs tool from control panel or “setup.exe” from same MSI file as installation
2. Note that MediaSpy directory is always present with configuration, dongle and logs files after uninstallation

- MediaSpy Persistence Storage

MediaSpy Persistent Storage must be installed before to run the application. Only SQL Server 2000/2005 or 2008 is available. Database is automatically installed/updated with Core Service
See “IMM Database - Release Notes.pdf” to have information to setup and configure IMOTION database and way to connect to.

Software Testing

- ✓ Check ODBC connection before to connect application,
- ✓ Check network before to start device or client plug-in
- ✓ Regional Settings : Character “,” must be replaced by “.” to avoid any mistake in SQL request

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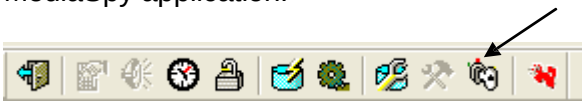
Description / User Manual / User Guide

Dongle protection

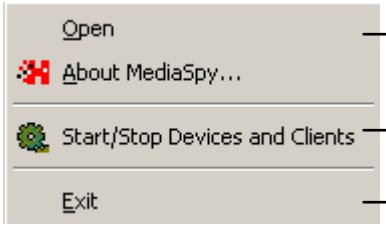
This application is protected with a software dongle (<filename>.IMMDongle) copied in the install directory.
It allows to define the right to start or not the application and the right to configure plug-ins (with authorized, Not authorized or number of instance for each plug-in). If the dongle is invalid (expired or unauthorized for this machine) when user try to launch application, a message is displayed to inform user and the application is not started.
A check of dongle is made at periodic time while the application is running. In case of failure (expiration), a dialog box is displayed to inform user, the application continues to work but will not start next time.
A new dongle file can be installed without stopping application.

Tray Icon

The IMOTION MediaSpy application works in Tray icon when operator click on of MediaSpy application:



In this case, when operator click right button of mouse on the MediaSpy icon, the following menu appeared :



Expand application

Start/Stop configured plugins

Quit application.

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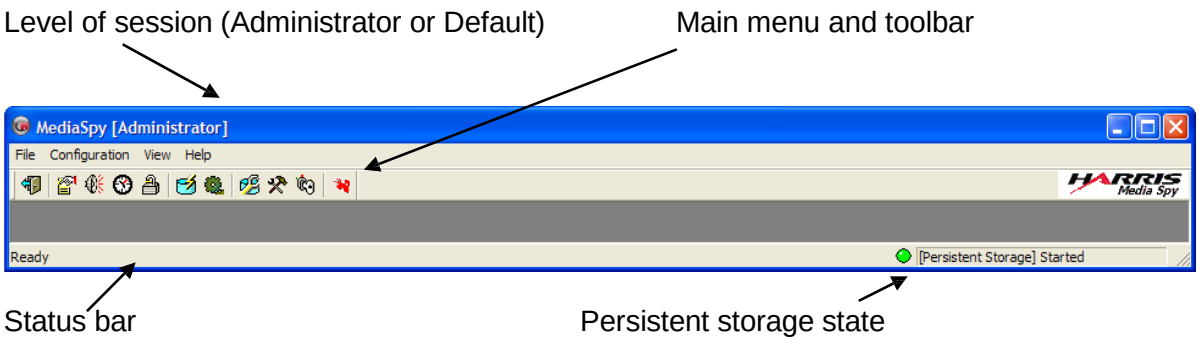
Active application



All menu items are accessible by button on main toolbar too, so:

- button allows to quit application,
- button allows to open log window,
- button allows to open status device and client window,
- button allows to open or close local time window,
- button allows to change the user session while application is working,
- button allows to start/stop the persistent storage connection,
- button allows to start/stop all configured devices and clients,
- button allows to open the persistent storage configuration window,
- button allows to open the device and client configuration window,
- button allows to configure password of operator (administrator and user),
- button allows to display „about" window (Product information)

The size and position of non modal window are saved in MediaSpy.ini file and restored when application restart or when operator (re)open a window.

Device plug-in

A device is monitored in a process called „Device plugin" contained in a library (DLL). This library is attached to the MediaSpy application and can contain several „Device plugin"
To be recognized and loaded, this DLL must be developed as a "MediaSpy Plug-in" and provide some programming fundamentals to work with MediaSpy application.
In the application, each device is initialized in a thread to avoid deadlock and leave free hand for the operator and other plug-ins

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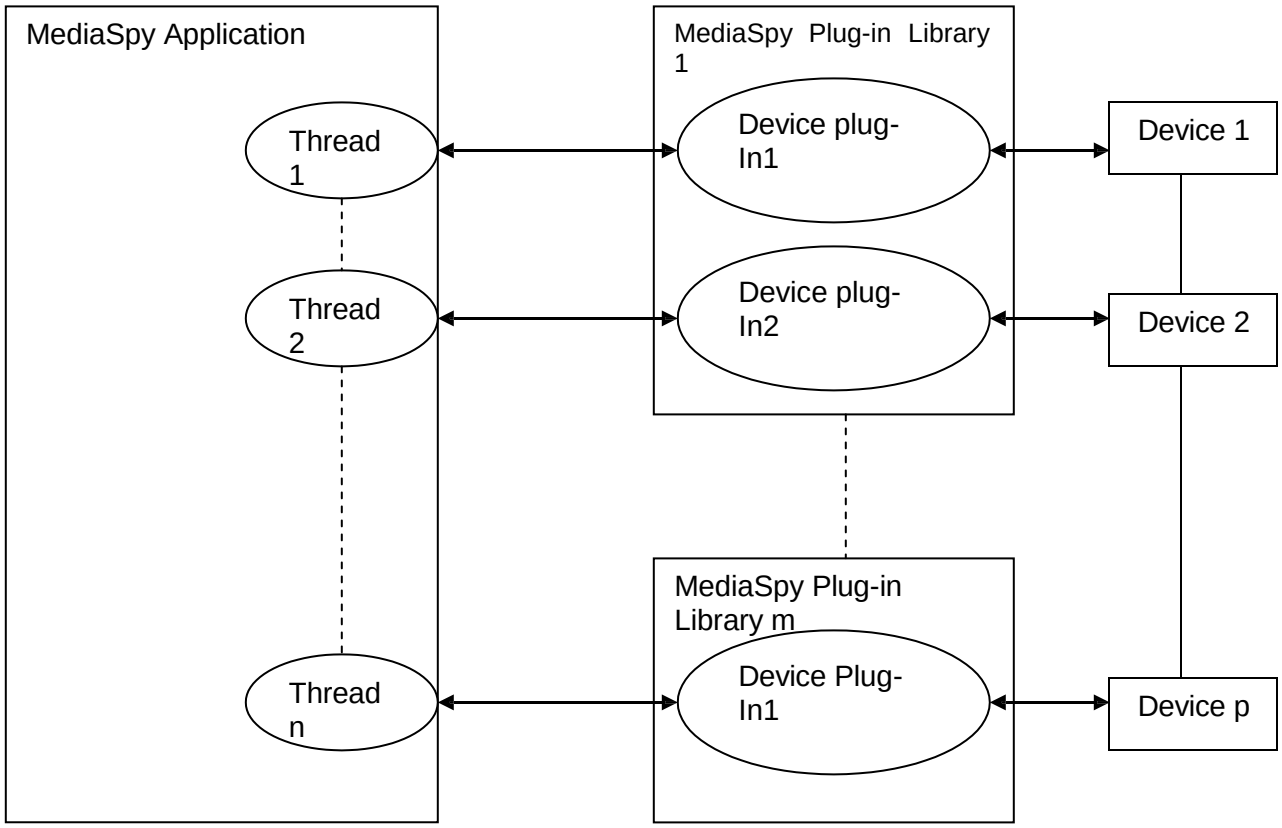
Principle:



When a device plug-in is configured and started by MediaSpy application, the device is monitored and Device plug-in send these information to application :

- ✓ Log Information
- ✓ Initialization and device communication state („Initialized", „Stopped" …."Failed to start"….. etc …)
- ✓ Media Information :
  - Resynchronization (list of media in storage of device to resynchronize both persistent storage and device)
  - Insert/Update or Delete Media Information (All properties of Media included metadata).

Client plug-in

A client is monitored in a process called „Client plug-in" contained in a library (DLL).
The „Client plug-in" architecture and working is the same that „Device plug-in".

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When a client plug-in is configured and started by MediaSpy application, the client is monitored and client plug-in can send these information to application :

- ✓ Log Information
- ✓ Plug-In and client communication state („Initialized", „Stopped" …."Failed to start"….. etc …)

And receive Media information (Insert/Delete/Update) and Device Storage information from application to advise final client.

The client plug-in receive all notifications of media object change and storage from MediaSpy.
Client plug-in are dedicated to executed a specific action like Update Automation database, trig a Content Handler workflow, export a file with some criterias on media id or storage

Persistent Storage

The Mediaspy application save all information from device and client plug-ins in a persistent storage (Database accessible via ODBC). Main table used by MediaSpy are :

- Device and Client information :
  - **alias name** (string) (Filled by application),
  - **uuid storage** (string) (Filled by application),
  - initialization state (numeric) (UNINITIALIZED (1), UNINITIALIZING (2), INITIALIZING (3), INITIALIZED (4), FAILTOINITIALIZE (5), FAILTOUNINITIALIZE (6)) (***optional*** field),
  - **communication state** (numeric) (STOPPED (1), STOPPING (2), STARTING(3), STARTED (4), FAILTOSTART (5), RESET (6), LOST (7), RESTORING(8), RESTARTING (9)) (***optional*** field),,
  - **Total capacities** (octets and time (format 0XHHMMSSFF) from device only (***optional*** field),
  - **Remaining capacities** (octets and time (format 0xHHMMSSFF) from device only (***optional*** field).
  - **PlugIn Config** (string) plug-in type that is Device or Client
  - **PlugIn Type** (string) XML sting with plug-in configuration (property and values),
  - **FileClosedTimespan (int)** Timeout before to declare media not growing (null or 0 if not used)
  - **Resyncing (bit)** TRUE when storage is in resynchronization**.**

- Media information from device plugins :
  - **Device alias name** (string) (***Mandatory*** field),
  - **Uuid Storage** (String) (
  - **ID** (Media ID , string) (***Mandatory*** field),
  - **Uuid Content** (String) (Filled by application),
  - **Path** (ID location, string) (***Mandatory*** field),

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- **MajorType** (type of Media (DataFile (1), A/V (2)), numeric) (***Mandatory*** field),
- **MinorType** (sub-type of Media (Data (1), MPEG2 (2), Motion JPEG (3), DV25 (4), DV50 (5), DVCPRO25 (6), DVCPRO50 (7), DVCPRO100 (8), IMX30 (9), IMX40 (10) IMX50 (11), MPEG1 (12), MPEG4 (13), Window Media Video (14), Real Media Video (15), MXF (17), H264 (18)), numeric) (Mandatory field),
- **Title** (string) (***Optional*** field),
- **StartTC** (TC IN, numeric as 0xHHMNSSFF) (***Optional*** field),
- **EndTC** (TC OUT, numeric as 0xHHMNSSFF) (***Optional*** field),
- **VideoFmt** (video Format (PAL (1)/NTSC (2)/NTSC-DF (3), PAL HD(4), NTSC HD (5) and NTSCDF HD (6)) , numeric) (***Optional*** field),
- **Filesize** (size of file in octets , numeric) (***Optional*** field),
- **Permission** (Permission on media, Combination of value : UNKNOW (0), READ (1) , WRITE (2), MODIFY (4) and EXECUTE (8)) (***Optional*** field),
- **Created** (Date of creation (time_t date since 1/1/1970), numeric) (managed by application or plug-in),
- **CreatedDate** (Date of Creation in Date/time database format)
- **Updated** (Date of last update(time_t date since 1/1/1970), numeric) (managed by application or plug-in),
- **UpdatedDate** (Date of last Update in Date/time database format)
- **Deleted** (***Date of delete NOT USED in this version***, numeric) (managed by application),
- **Status** (Status of transaction (UNKNOWN = 0, RESYNCHRONIZE=1, NORMAL=2)) (managed by application).
- **strStarTC, strEndTC and strDuration :** TC"s in string format hh:mn:ss:ff
- **UMID :** Unique identifier (string, optionnal),
- **FileGrowing** (bit) TRUE while media is not completed when FileClosedTimespan is used (Manage File growing),
- **FileSizeChangedOn :** Date of last Insert/Update

- Engines information :
  - **uuidEngine** (primary key, unique identifier) (Unique identifier for Engine),
  - **EngineName** (string) (Alias of Engine displayed in toolbar),
  - **EngineType** (char) (Engine type that is MS for MediaSpy.
  - **Started (bit)** (1 if started, 0 otherwise),
  - **Timeout (int)** (polling to check status),
  - **TimeoutExpireDate** (datetime) (datetime of last update)

The mandatory and optional fields are sent by plug-ins. The others fields are managed and filled by application.

The Persistent Storage module works in a particular thread to avoid slowing down. All messages received by this thread are processed in asynchronous mode (command INSERT/UPDATE or DELETE Media information). These messages (requests) are memorized before to be executed in packet (grouped request to execute only for one commit).

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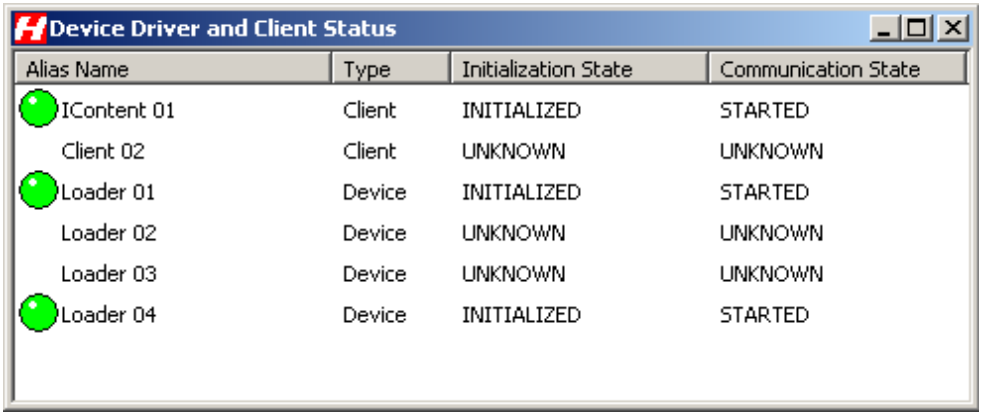
All other requests (SELECT and INSERT/UPDATE (Device and Client information)) are executed by application or plug-in thread directly in synchronous mode.

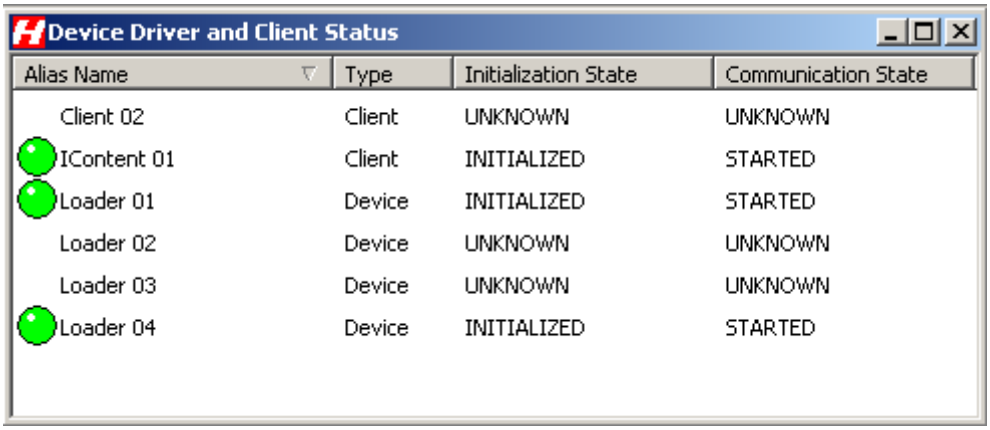
Metadata tables are explained in Appendix A

Device and client status window

The button allow to open status device and client window :



For each configured and running plug-in, the status window display the alias name of plug-in as well as plug-in type (Client or Device), initialization state and communication state with device or client plug-in.
A red light before the alias name show a problem of initialization, orange light show an initialization in progress and green light show a good working.
When plug-in is not started, states are „UNKNOWN" and light is invisible.
The operator can sort the status list by Alias name or Type in ascending or descending order and by clicking the header of the desired column:



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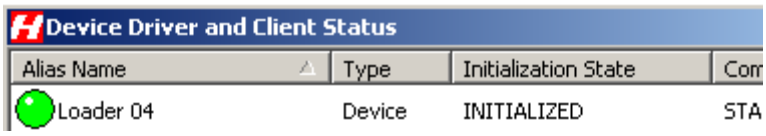
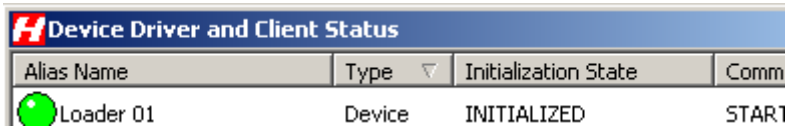
or



or



or

By default, the status list is not sorted.
The type and column sorted are saved in “ini” file and restored when application is started or window is re-opened once again.

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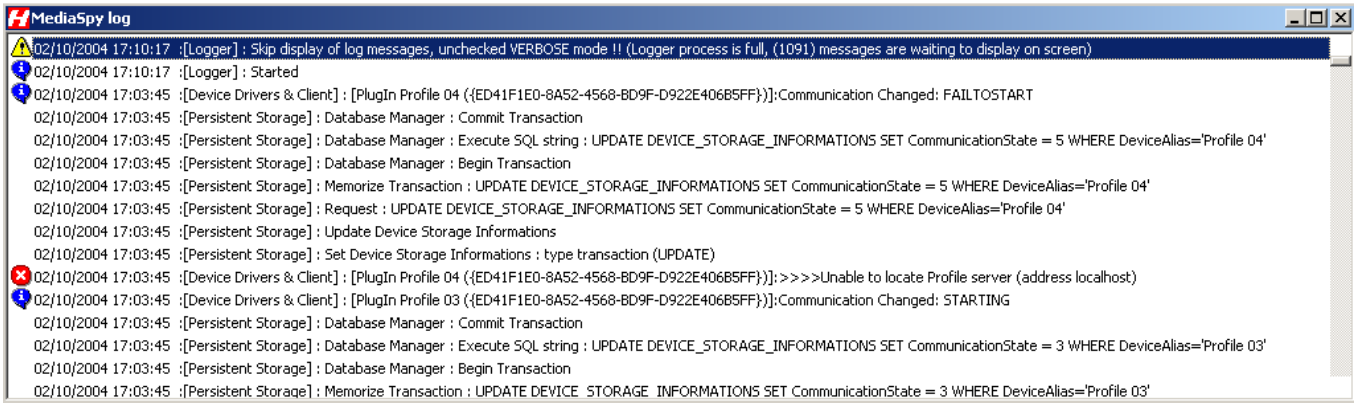
Logger

All modules of application (main process, persistent storage, logger itself) as well as device and client plug-ins can log messages.
It exists some level of logs, i.e. ERROR, WARNING, INFORMATION, NORMAL and VERBOSE. The level of log is display by a specific icon in the beginning of line in log window (only for ERROR/WARNING and INFORMATION message).

The button allow to open log window.


MediaSpy log
02/10/2004 17:10:17 :[Logger] : Skip display of log messages, unchecked VERBOSE mode !! (Logger process is full, (1091) messages are waiting to display on screen)
02/10/2004 17:10:17 :[Logger] : Started
02/10/2004 17:03:45 :[Device Drivers & Client] : [PlugIn Profile 04 ({ED41F1E0-8A52-4568-BD9F-D922E406B5FF})]:Communication Changed: FAILTOSTART
02/10/2004 17:03:45 :[Persistent Storage] : Database Manager : Commit Transaction
02/10/2004 17:03:45 :[Persistent Storage] : Database Manager : Execute SQL string : UPDATE DEVICE_STORAGE_INFORMATIONS SET CommunicationState = 5 WHERE DeviceAlias='Profile 04'
02/10/2004 17:03:45 :[Persistent Storage] : Database Manager : Begin Transaction
02/10/2004 17:03:45 :[Persistent Storage] : Memorize Transaction : UPDATE DEVICE_STORAGE_INFORMATIONS SET CommunicationState = 5 WHERE DeviceAlias='Profile 04'
02/10/2004 17:03:45 :[Persistent Storage] : Request : UPDATE DEVICE_STORAGE_INFORMATIONS SET CommunicationState = 5 WHERE DeviceAlias='Profile 04'
02/10/2004 17:03:45 :[Persistent Storage] : Update Device Storage Informations
02/10/2004 17:03:45 :[Persistent Storage] : Set Device Storage Informations : type transaction (UPDATE)
02/10/2004 17:03:45 :[Device Drivers & Client] : [PlugIn Profile 04 ({ED41F1E0-8A52-4568-BD9F-D922E406B5FF})]:>>>>Unable to locate Profile server (address localhost)
02/10/2004 17:03:45 :[Device Drivers & Client] : [PlugIn Profile 03 ({ED41F1E0-8A52-4568-BD9F-D922E406B5FF})]:Communication Changed: STARTING
02/10/2004 17:03:45 :[Persistent Storage] : Database Manager : Commit Transaction
02/10/2004 17:03:45 :[Persistent Storage] : Database Manager : Execute SQL string : UPDATE DEVICE_STORAGE_INFORMATIONS SET CommunicationState = 3 WHERE DeviceAlias='Profile 03'
02/10/2004 17:03:45 :[Persistent Storage] : Database Manager : Begin Transaction
02/10/2004 17:03:45 :[Persistent Storage] : Memorize Transaction : UPDATE DEVICE_STORAGE_INFORMATIONS SET CommunicationState = 3 WHERE DeviceAlias='Profile 03'

A message log is structured as follow :

- Icon for level of log (blank for NORMAL and VERBOSE)
- Date (mm/dd/yyyy hh:mn:ss)
- Origin of message (in crochets, ex. [Persistent Storage] or [Device Driver and client]:[<Plug-in device or client reference>]
- Body of message

The logger manage log file named „MediaSpy log yyyymmdd-hh.log" in the MediaSpy directory, so one file per day. It keeps 30 days (by default) and purge automatically the old files.

The Logger module works in a particular thread to avoid slowing down. All messages received by the logger thread are memorized before to be displayed at screen or saved in log file. The log window is limited at 5000 messages displayed to avoid to reach the maximum of virtual memory.

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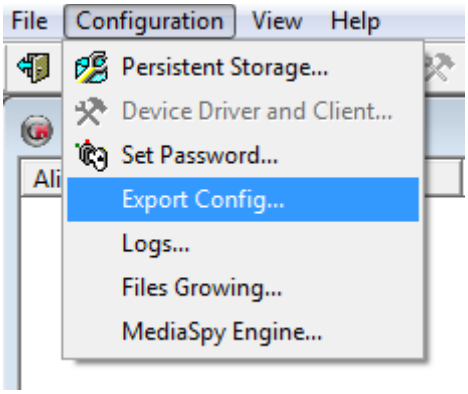
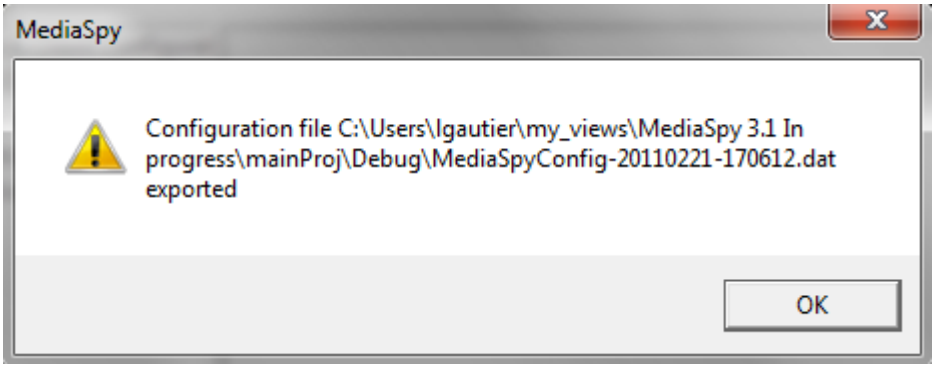
Export Configuration

This menu is available through Configuration/Export Configuration menu



And allow to export configuration of this MediaSpy to a binary file depending of date/time :



This file is available in MediaSpy install directory and can be used as backup or to install/re-install MediaSpy.

MediaSpy check availability of MediaSpyConfig.dat in install directory when engine start and propose to operator to import configuration.

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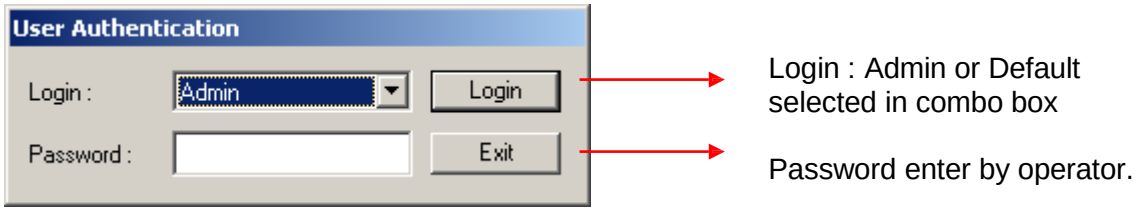
Configuration

All configuration fonctions are available for any user BUT only administrator can create/update value.

User Right

When application is launched, after the splash screen, the following dialog box is displayed and ask login/password to operator.



First time the „Admin" password is „admin" and empty for „Default".
These information are saved in „MediaSpy.ini" file in section [LOGIN PARAMETERS], keys „Default Identifier" (Last type of user connected (0 : Admin, 1 : Default)), „Admin Pwd" (encrypted Admin password and „User Pwd" (Default password).
When application is started again the last login is restored.

The 'Default' operator is not authorized to configure MediaSpy application.

While application is working, operator can change the user session by clicking the button or selected "File/Change User" menu item

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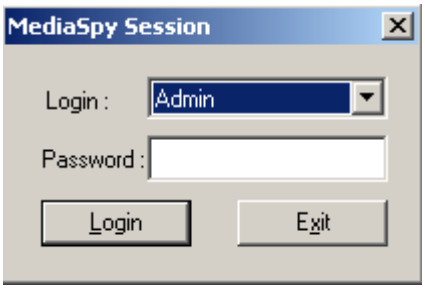
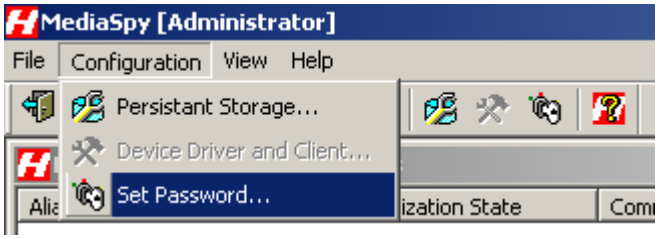
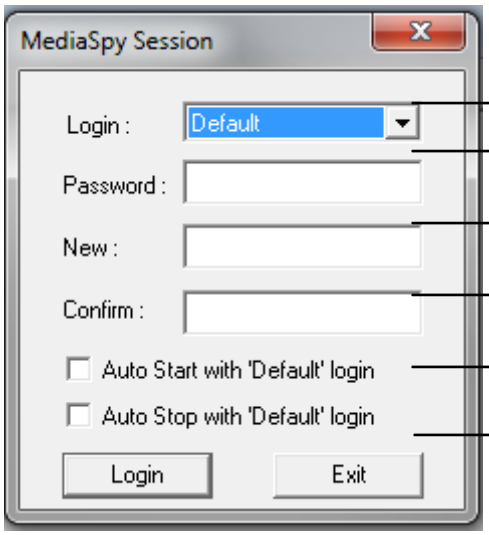
In this case the following dialog is displayed and operator can change the session (Admin or Default) .



After launch, operator can change its password with “Configuration/Set password” menu item or button in toolbar :



In this case the following dialog is displayed and operator can change the sessions password :



Session level

password

New password

New password confirmation

Authorize or not the auto start application without Login box in „Default” user login only (grayed when login session is “Admin”)

Authorize or not the auto stop application without confirmation in „Default” user login only (grayed when login session is “Admin”)

The “auto start” parameter is saved in “ini” file (Section [LOGIN PARAMETERS], key “Auto Start Use”). If this parameter is checked when application is started again in “Default” session, the following first dialog box is displayed without authentication :

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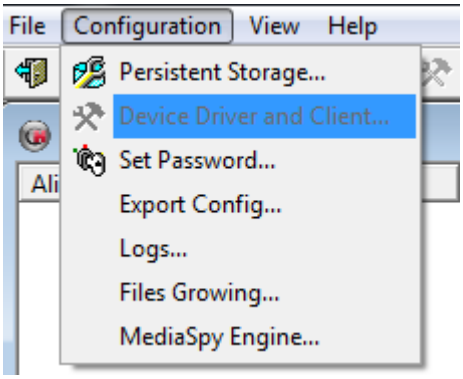
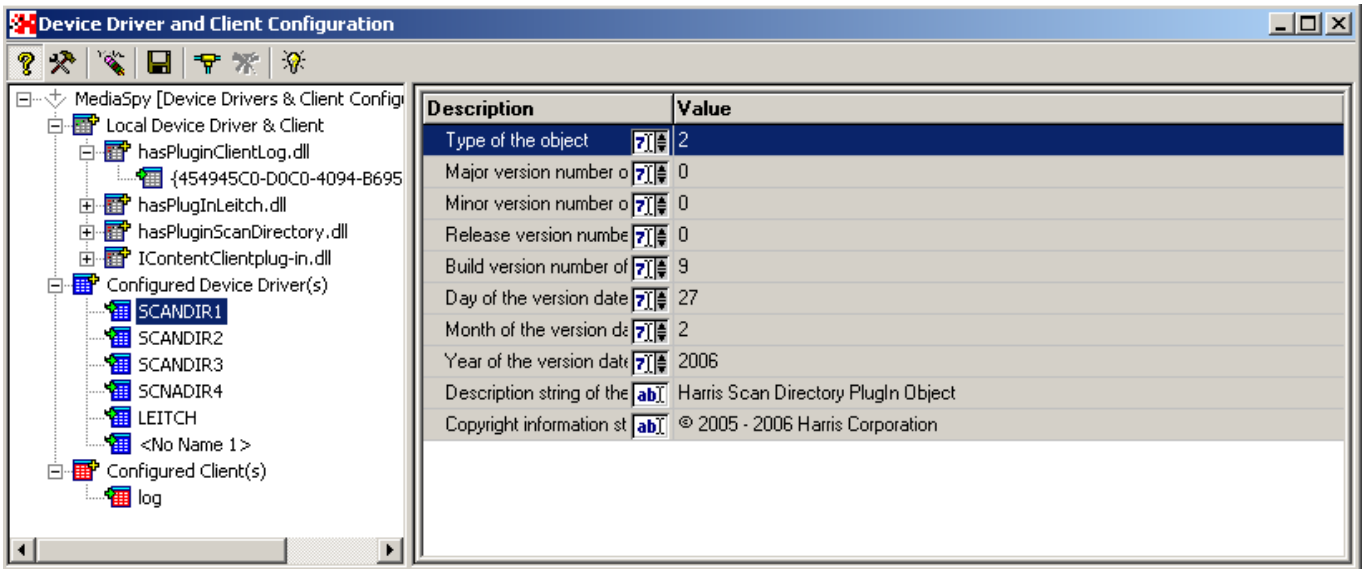
Authorize exit without confirmation when cluster mode is activate. Available only for 'User'.
Setup section [CLUSTER MODE], key name “Auto Stop=0” in MediaSpy.ini file.
1 to exit without confirmation. 0 with confirmation.

Device & client Plug-in setup

The „plug-in“ configuration is accessible by administrator in “Configuration/Device Driver and Client” menu item or button in toolbar



In this case the following configuration window is displayed :



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In left side window, the tree view shows :

- the list of MediaSpy plug-ins (DLL) present in the MediaSpy application directory and called “Local Device Driver & Client”, ex: DIVA_Device_PlugIn.dll) and the list of plug-in belong to a DLL (ex: { ED41F0E0- ……} single plug-in to DIVA_Devise_PlugIn.dll library).
- The list of „Configured Device driver(s)“,
- The list of „Configured Client(s).

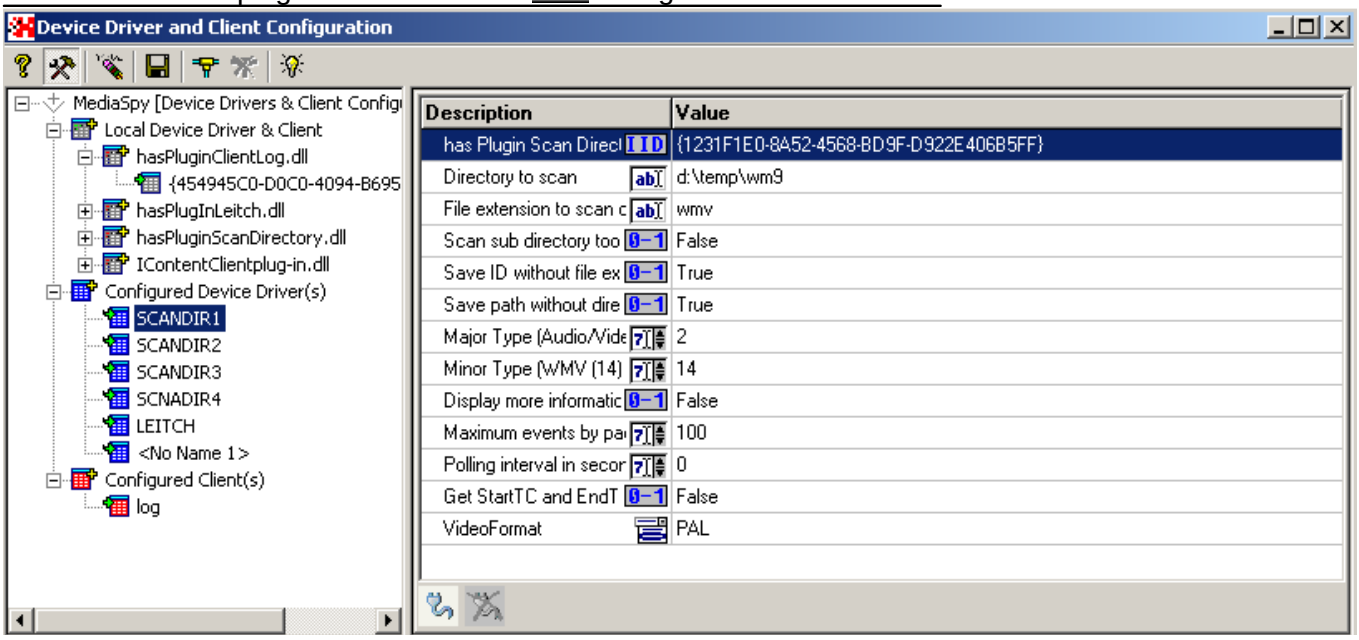
The operator must select a plug-in in “Local Device Driver & Client” and drag & drop selected item to “Configured Device Driver(s)” or “Configured Client(s)” to add a configured item.
Note that only Client plug-in can be drag & drop from “Local Device Driver & Client” to “Configured Client(s)” and only Device plug-in can be drag & drop from “Local Device Driver & Client” to “Configured Device Driver(s)”.

The operator can give an alias name to the new configured item by select and click it. By default the name is <No Name „n“>. The operator can rename the plug-in but only when if it is not started

The right side window shows :

- the version information of plug-in or library.
- the configured parameter of plug-in

Ex : “SCANDIR1” plugin is selected with configuration button down:



The operator must click to the parameter value to edit, change and valid with „Enter“ touch a new value but only if this plug-in is not started.

button allows to start the selected plug-in.

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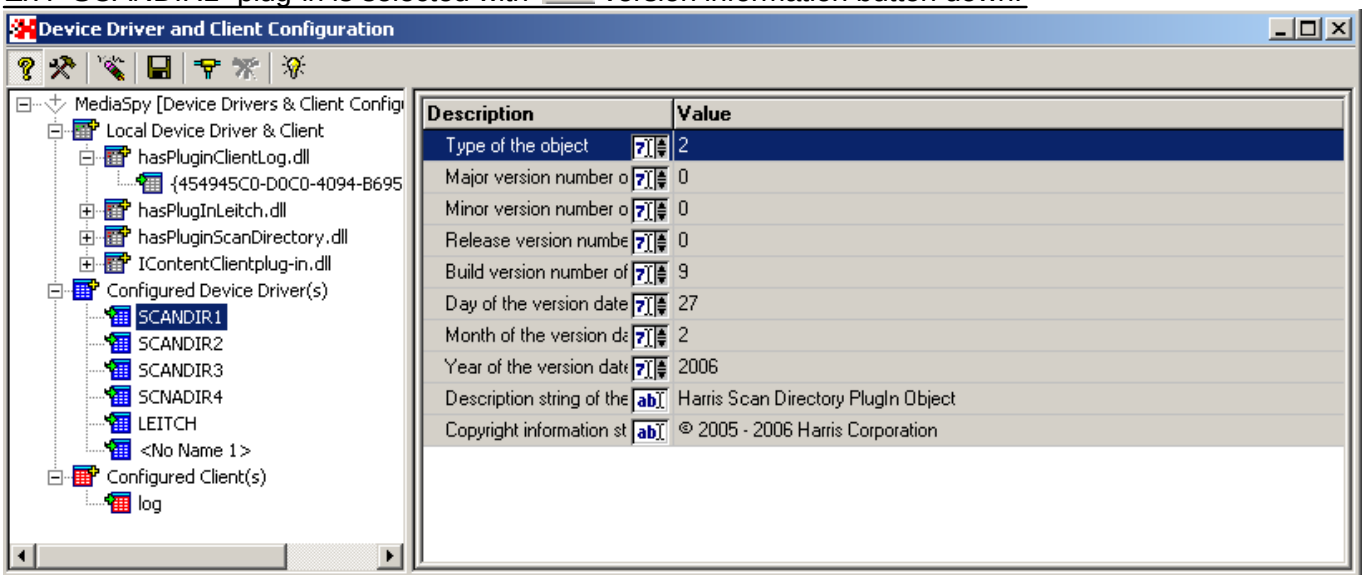
button allows to stop the selected plug-in.

Ex : “SCANDIR1” plug-in is selected with version information button down:



Function button of toolbar :

button allows to show the version information of selected plug-in or library in right window (read only parameters).

button allows to show the configuration parameters of selected plug-in or library in right window (read/write parameters)

button allows to erase a selected configured item, but only if it is not started.

button allows to save the plug-in configuration in database (configured plug-in list with their parameters).

button allows to start configured plug-ins.

button allows to stop configured plug-ins.

button allows to configure the auto start plug-in parameter. If it is down, the Auto start parameter is ON. In this case plug-ins start automatically after application restart. This parameter is saved in MediaSpy.ini file, section [PLUGIN DEVICE AND DRIVER], key name „Auto Start" (O : OFF and 1: ON).

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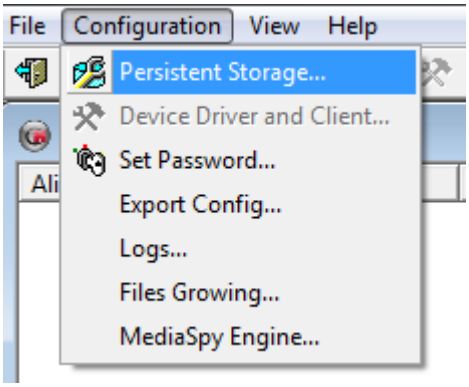
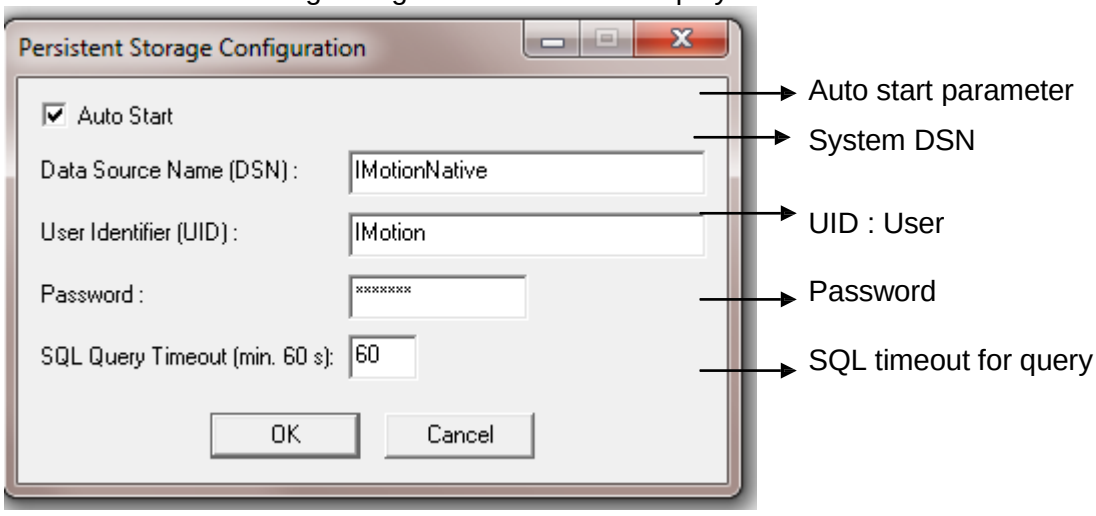
Persistent Storage setup

The „persistent storage" configuration is accessible by administrator in "Persistent storage" menu item or button in toolbar



In this case the following configuration window is displayed :



These parameters are saved in MediaSpy.ini file, section [PERSISTANT STORAGE] key name „Auto Start" (0 : OFF, 1 : ON) and [DATABASE PARAMETERS] keys „DB UserIdentifier", „DB Pwd" (encrypted password), „Datasourcename" and „QueryTimeout".

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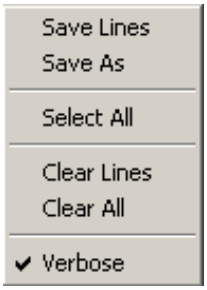
Logger setup

The logger manage log file named „MediaSpy log yyyymmdd-hh.log" in the MediaSpy directory, so one file per hour. It keeps 30 days (by default) and purge automatically the old files.

In Log window and when operator is administrator, he can click right button of mouse and display the following menu:

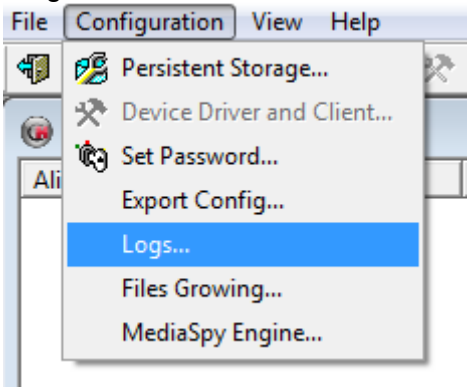


Allow to save selected lines in particular file.
Allow to save contents of log window
Select all lines

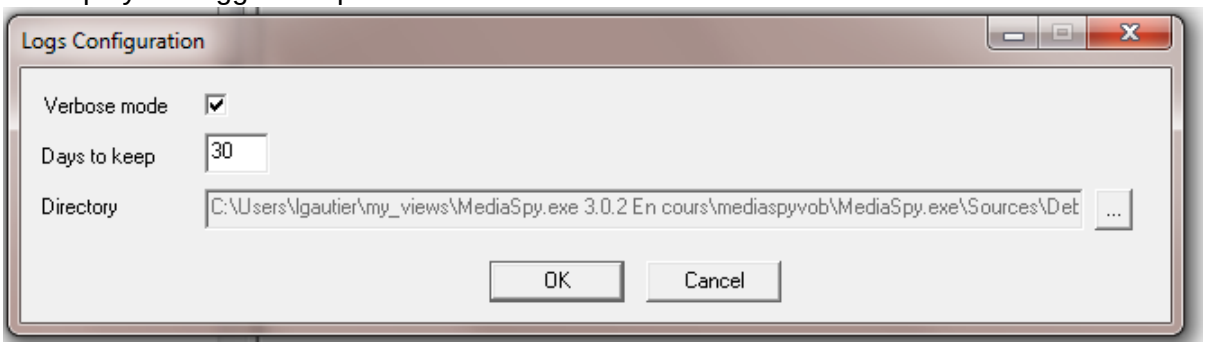
Clear selected lines
Clear all messages in log window

Display (when checked) or not messages in VERBOSE level.

Also Administrator can define logger setup available in main menu “Configuration” and “Logs” :



To display the logger setup window :



Verbose mode : allow to define default mode in log window.

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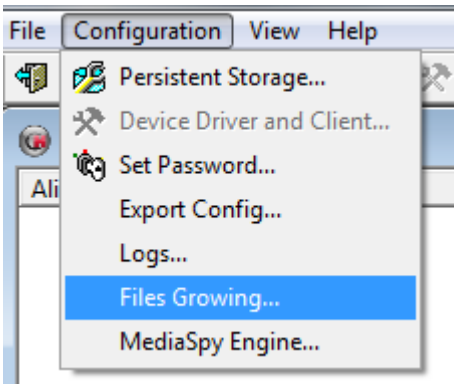
Days to keep : Allow to define depth of log (number of day kept)
Directory : allow to define where log file will be created.

The logger parameters are saved in MediaSpy.ini file, section [LOGGER], key name State (OPEN : 1, CLOSE : 0) and [LOG FILES], keys name „Day Kept" (30 by default) , „Verbose" (OFF : 0 and ON : 1)., and „Directory'

Files Growing

This function is available in menu Configuration/Files Growing …



And allow to display the following dialog box with list of Device plug-in. For each plug-in then it is possible to manage files growing (YES or NO in "Manage Files Growing" Column) and timeout before to consider clip completed (Value in seconds in "File Closed Timespan" column).

When "Files growing" is managed for a device then a timeout is selected (must be greater than Device plug-in timeout). In this case when a clip is inserted or updated (Record/copy/transfer in progress) then "File Growing" is setup to TRUE (and can be displayed in Client application like Transfer Monitor/Storage Explorer). If clip is not changed after last update date/time and last update date/time + File Closed Timespan then "File Growing" status is setup to FALSE and clip is considered as completed.

When "Files Growing" is not managed then "File Growing" status is setup to FALSE when clip is inserted.

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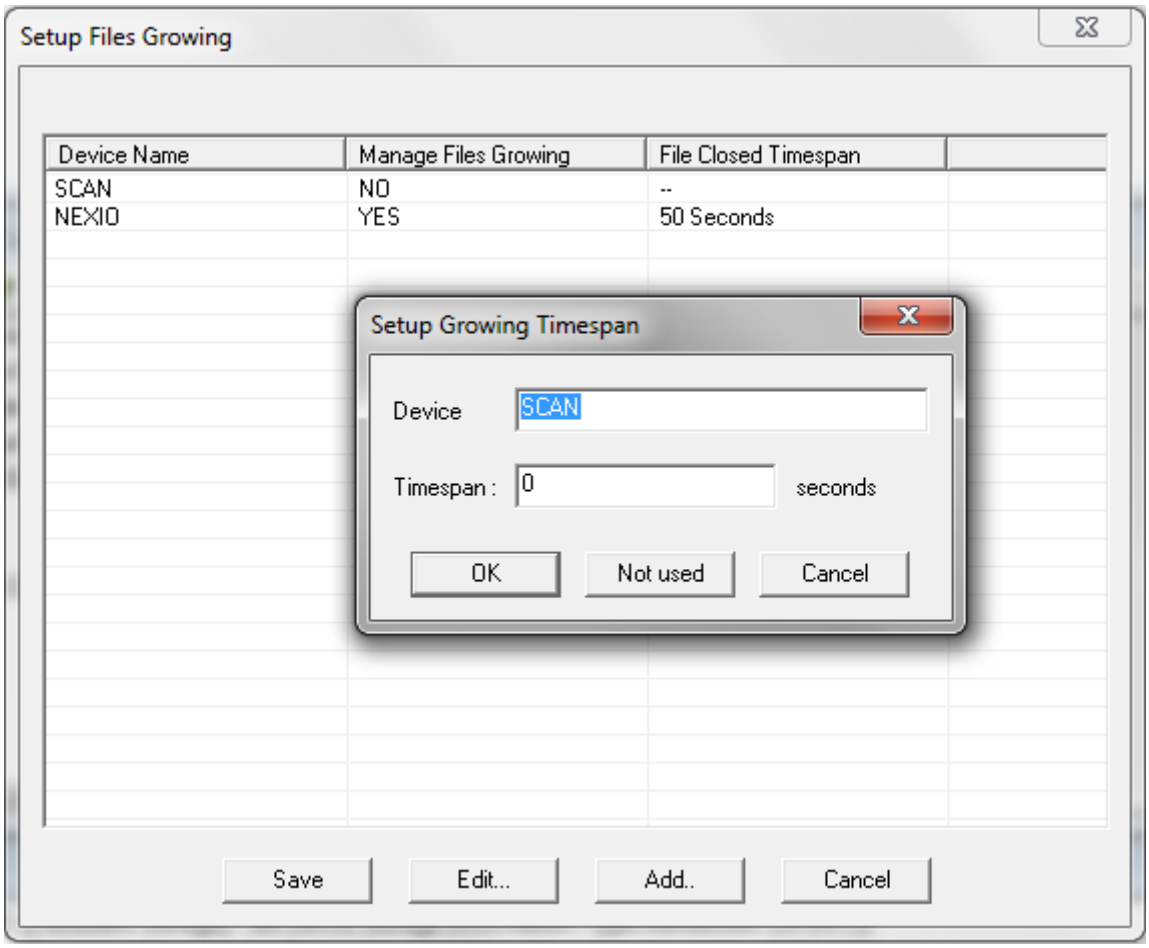

In “Setup Files Growing” dialog box then operator can :

- Select a device and “Edit” its information : Enter new timespan in seconds or click on “Not used “button to not manage File Growing for this device,
- Add a new device not listed (When Device Alias are not managed in MediaSpy configuration but by plug-in itself like for FTP plug-in where list of device are only in plug-in datasource).,
- Save configuration,
- Cancel to leave with save last change

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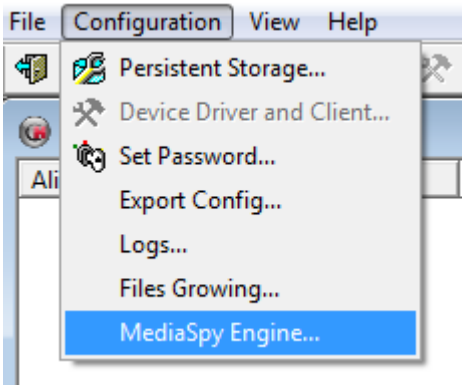
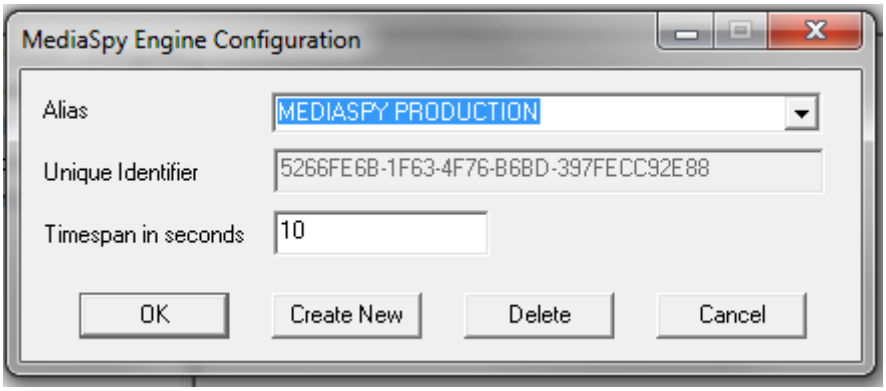
MediaSpy Engine

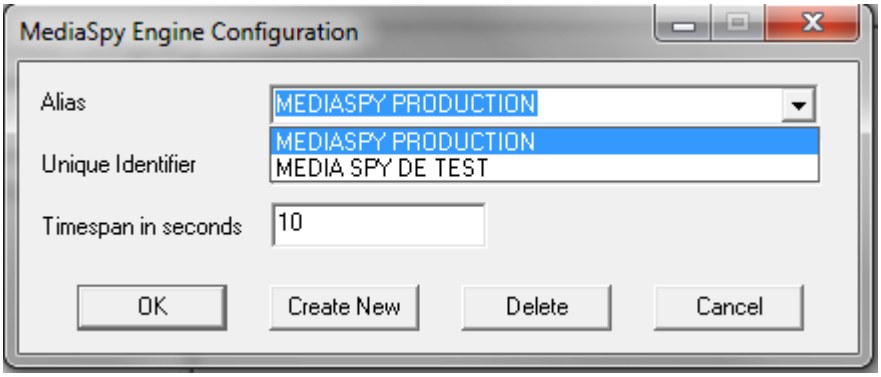
This function is available in “Configuration/MediaSpy Engine ….” Menu.



And allow to setup unique identifier for the MediaSpy :



The first list “Alias” allows to select the name of used for the MediaSpy and can be edited. This alias name will be displayed in title of Main window :



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When a new alias is selected with OK button then configuration for this MediaSpy is loaded. It allows to use 1 MediaSpy engine with different configuration.

The button “Create New” allows to create new configuration and will load empty plug-in configuration if validate (button OK). Button Delete allows to delete a configuration with confirmation beforehand

Field “Timespan in seconds” allows to setup the timeout value before to declare the Engine down.

Minimum value for Timespan is 10 seconds. MediaSpy engine update this status every 5 seconds. Core service notify client application after “Timespan” value if status has not been updated between last update and last update + Timespan

From 3.1.1 then it is possible to install & start several MediaSpy instance on same server and use specific MediaSpy engine for each one. That‟s allow to share workload (number of plug-in instance) and isolate resource. These instances can be connected to same Motion database.
To install several install then just copy & paste MediaSpy directory to another location without MediaSpy.ini file and restart it.
It is not possible to use same MSI to install several time the same application. If you restart MSI then Windows Installer propose only to repair or remove current installation.

Note that a mechanism of heartbeat is done between MediaSpy and database and used by Core Service to detect if engine is up or down. When MediaSpy is starting then it uses its uid engine to populate its heartbeat flag but also prevent any operator to start another instance of MediaSpy with same configuration.

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Enhancements

ERs ID	Description
	✓ Authorize to start several instance of MediaSpy but not on same directory. Check if selected uidEngine is already started somewhere else before to accept ✓ Add METADATA_XMLBLOB to copy Metadata XML into MEDIA_INFORMATIONS column

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Defects Fixed

Defect ID	Description
Mantis 800	Device Storage remains with Resynchronizing status if MediaSpy crash while it was Resynchronizing
Mantis 802	All existing Device Alias in IMotion Database appear in Files Growing window for a new MediaSpy instance
Mantis 815	MediaSpy does not manage properly TimeSpan value for Devices which "FileIsGrowing" parameter is not used
Mantis 0000764	Status of Alias name are not properly refreshed after synchronization
-	Make Synchronous the metadata Insert to avoid duplicate key
-	Make Synchronous the metadata Insert to avoid duplicate key

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Known Issues and Limitations

Defect ID	Description
-	The component “hasPluginInspector.ocx” has some small memory leaks. They are appear when operator configures or show version information of plug-in. Their size are limited (few Kilo-octets) and will be fixed in next release.
-	Too much workload, i.e. notification from plug-ins, overload the persistent storage (see QA report to have figures with PC 2.0 GHz and Bi-Processor 2.4 GHz) . One enhancement will be to better manage the writing in database, for example, by use one connection to Persistent storage for each plug-in instead of one connection for all plug-ins. Also memory usage of MediaSpy increase with number of media spied.
-	There is no synchronization between Devices plug-in and a client plug-in if client is started after Devices.
-	In “Regional Option” of windows (see menu “Start”, “Settings”, “Control Panel”, “Regional Settings”, page “Number”, use “.” (period) as “Decimal Number” rather than “,” (comma). Otherwise, it will cause an SQL syntax error when application execute an update of capacities for a device.
-	Sometimes an error “Unable to create file buffer” (ODBC Error) is wrote in logger when application try to connect to persistent storage using SQL Server ODBC Driver. This bug is a Microsoft issue (referenced PRB S1000 : “Unable to create file buffer”). In this case, find the directory where are located the “CTT*.tmp” files. If a “CTTFFFF.tmp” already exist, create a “CTT0.tmp” by copying and renaming another CTT*.tmp file (See Appendix “PRB S1000) and restart application.

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Previous Version

Enhancements

ER#	Version	Description
-	3.1.0	1. Files Growing, 2. Engine status, 3. Optimize resynchronization (Setup flag in database when device Start/Stop Resynchronization this to facilitate communication between Core and clients application) 4. Setup Title of MediaSpy with MediaSpy alias. Manage uid engine
-	3.0.2	1. Remove password confirmation for ODBC connection 2. Authorize read write for log file (log can be opened in notepad while used by MS) 3. Force to stop plug-in after 10 seconds if no pi answer. Log message to reboot application in this case, 4. Manage log by Year, month, day and HOUR - Old file before 3.0.2 are not purged !!
-	3.0.1	- Manage PALDH, NTSCHD and NTSCDF HD, - Manage UMID as Media information (new column UMID in Media_Information table.
-	3.0.0	- Integration with new CoRe service version – Remove TCP/IP connection with core and XML message for communication. New CoRe 2.0 uses logs table in SQL. - Add strStartTC and strEndTC columns in Database. StarTC and EndTC in format string 'hh:mn:ss:ff'. Add strDuration column in MEDIA_INFORMATION table - MediaSpy config in now saved in Database (MS Source, PI config, PI type) . - Migrate config file (.dat) to database that is MediaSpyConfig.dat not anymore used. For upgrade then automatic import from MediaSpyConfig.dat to Database is proposed. In this case file imported will be renamed after import to not be reused (automatically) at next restart. - Remove TCP/IP connection to CoRe - Use only database access. Remove Dialog box to configure connexion with CoRe. - Remove Splashscreen with HClass logo. - Manage device name in capacity notification as already done in Media notification
-	1.5.5.0	Optimize logs (Access to logs file and display tips only if log window has focus)

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ER#	Version	Description
-	1.5.5.0	Make synchrone all transaction from plug-in (resynchronize and notification) to avoid to have duplicate ID in database
-	1.5.5.0	Authorize exit without confirmation when cluster mode is activate. Available only for 'User'. Setup section [CLUSTER MODE], key name “Auto Stop=0” in MediaSpy.ini file. 1 to exit without confirmation. 0 with confirmation.
-	1.5.5.0	Change application icon to homogenize with Content Handler & Transfer Monitor application
-	1.5.2.0	- Send Metadata to Client plug-in notification, - Add CreatedDate and UpdatedDate (datetime format) columns in IMOTION database, - Add MXF and h264 format treatment
-	1.5.1.0	MediaSpy with generic Metadata treatment.
-	1.2.2.0	Add ODBC compatibility for SQL Server 2005 and MySQL databases.
-	1.2.0.0	Finalize CoRe Service integration
-	1.1.0.0	- HClass Branding - New plug-in Inspector - Authorize (Add) Device Alias from plug-in - Reset Device status information for only device in the local MediaSpy configuration - Reset Device status information for only device in the local MediaSpy configuration, - Integration with Core Service (configuration grayed in this version), - Delete all media associated when delete storage, - ER-Difference in Date and/or Time will send Update Request Internally to Media Spy, - IMOTION Software Dongle
-	0.0.0.11	Add resource from plug-in "UpdateHASDB F2".
-	0.0.0.10	Change "Do you really want to stop the connection with Persistent Storage" by "Do you really want to stop the connection with the Persistent Storage"
-	0.0.0.10	Add shortcut to dialog boxes "Persistent Storage Configuration" (ALT+O, ALT+C), "MediaSpy Session" (ALT+L, ALT+X)
-	0.0.0.10	Check type (Client or Device) of plug-in before to configure new plug-in and forbidden to add a plug-in in a bad target
5487	0.0.0.10	Add "Harris Corporation" and “All Rights Reserved” in Splash screen and about box.
-	0.0.0.7	The MediaInformation and DeviceStorage records information are exported from Persistent Storage Dll
-	0.0.0.6	Change Set focus in status window Change type of FileSize (in mediaInformation) from long to double. That is change the SQL Server script of Persistent Storage database.

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ER#	Version	Description
-	0.0.0.5	Add field “Permission” on media in Media Information, Add field “Total” and “Remaining” capacities in Storage Information (in octets and time) That it change the SQL Server script of Persistent Storage database. Add Device Storage Information from MediaSpy to Client plug-in.
-	0.0.0.3	Add media object change notification from MediaSpy to Client plug-in.
-	0.0.0.3	Add media object change notification from MediaSpy to Client plug-in.
-	0.0.0.4	Persistent Storage : . Improve speed access in persistent storage database for select record by mandatories fields (Alias, ID, Path, Major and Minor type). . Force to execute the buffer of memorized SQL string after 100 successive messages before to memorize another transaction. . Change script file “Createdb.sql” provided with Installation CD to create an index with all mandatory fields in MEDIA_INFORMATION table (fields: Alias/ID/Path/Major and Minor type). This script allows to create SQL Server 2000 MediaSpy database (see chapter “Microsoft SQL Server 2000 Creation) Logger : Add control before to post thread message to logger.
-	0.0.0.3	Add media object change notification from MediaSpy to Client plug-in.
-	0.0.0.3	Add type of plug-in, “Device" or "Client" in device driver & client Status window.
	0.0.0.3	In device driver & client Status window, the operator can sort in ascending or descending mode by clicking the header of “Alias name” or “type” column.
-	0.0.0.3	Add Auto Start application in USER mode. Configurable in menu "Set password" or toolbar button.
-	0.0.0.2	Change the menu item by “Start/Stop Devices & Clients” instead of “Start/Stop Devices”
-	0.0.0.2	When stopping Devices & Clients, the warning message is “Do you really want to stop all connections with devices & clients”
-	0.0.0.2	Change menu item by “Open Devices and Clients Status Window” instead of “Open Device Status Window”.
-	0.0.0.2	Rename “Persistant Storage” item in the configuration menu into “Persistent Storage”
-	0.0.0.2	When the mouse is on the “log window” icon of the toolbar, the information displayed in the status bar is now written correctly, i.e. “Open Log Window”
-	0.0.0.2	When the mouse is on the ““Start/Stop Devices & Clients” icon of the toolbar, the information displayed in the status bar is now written correctly, i.e. “Start/Stop Devices & Clients”.
-	0.0.0.2	Change Persistent Storage dll name from “PersistantStorage.dll” to “PersistentStorage.dll”
-	0.0.0.2	Change message displayed before to stop persistent storage as "Do you really want to stop the connection with Persistent Storage ?".
-	0.0.0.2	Change start/stop plug-in buttons in configuration Devices and Clients window. Display information in the status bar for these buttons. The start button is grayed when plug-in is already started and stop button is grayed when plug-in is already stopped.
-	0.0.0.2	One fix about the drag & drop device driver or client from “local device driver & client “ to “configured device/client” in configuration devices and clients window,

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Bug Fixes

Bug #	Bug Area (from QA report)	Issue Version	Fixed Version	Bug description Bug fixes
-	-	3.0.4	3.1.0	Fix issue in Status Window when sort enable - Must display only device for this MediaSpy
- **Mantis 605**	-	3.0.3	3.0.4	Merge issue - 15/06/2010 - Media Spy does not load boolean parameters correctly was not reported in svn
- **Mantis 688**	-	3.0.2	3.0.3	ScanDirectory plugin Instance Fail to start when folder is empty
- -	-	3.0.2	3.0.3	Cancel Synchronize SQL request for Insert/Update request. Database thread and Min application are not synchronous anymore to avoid UI hand sometimes like resynchronize treatment. **Note that Connection with database could be lost if plug-in could send twice notification for same Id in a resynch message (Primary key issue – In this case the plug-in device should be improved)**
- **Mantis 644**	-	3.0.1	3.0.2	1. MS in debbug mode with Windows Seven crash when initialize log window (set size of first column ?) 2. Allow to configure SQL request Timeout (Database Setup windown)

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Bug #	Bug Area (from QA report)	Issue Version	Fixed Version	Bug description Bug fixes
- **Mantis 605**	-	3.0.0	3.0.1	• Fix issue about NTSC DF HD and method to convert frame into hh, mn, ss and ff • Media Spy does not load boolean parameters correctly • Free library if not plug-in.
- **MANTIS 304** **MANTIS 316** **MANTIS 315** - **MANTIS 233** **MANTIS 260** - **MANTIS 305**	-	1.5.5.0	3.0.0.0	- Also starting in cluster mode with user default should not display splashscreen as login box - add capability to override device name in SafeSetCommunicationStatus - Accept Communication / Initialisation State in DeviceStorageNotification (Field PROPID_HASPlugInMediaSpyStorageInfo_Device, PROPID_HASPlugInMediaSpyStorageInfo_InitState and PROPID_HASPlugInMediaSpyStorageInfo_CommState) That is allow plug-in to pass Devicename in notification. - Dongle License protection is disturbed in MediaSpy after a network disconnection or a bad value for some parameter. - Dongle License protection does not work properly if using Start All/Stop All button in MediaSpy, - Check in database before to name or rename plug-in alias. Avoid to have several line with same device name - MediaSpy log files are not properly re-initialized each day (Logger), - Rename device doesn't be translate in 1 delete + 1 Insert for new CoRe - When plug-in stop then 2 notification of communication/initialization was send (that's involve 2 notification in CoRe V2/Database) - Resynchronize with multiple DeviceAlias is not done properly and old media not yet present are not removed from Database
-	-	1.5.3.0	1.5.5.0	Send communication storage status to the Core Service immediately after change. This to avoid bad status in Client application
-	-	1.5.3.0	1.5.5.0	Fix issue CDBException when multiple access to database (Connection is busy with results for another hstmt). Add critical

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Bug #	Bug Area (from QA report)	Issue Version	Fixed Version	Bug description Bug fixes
				section in Metadata request.
-	-	1.5.3.0	1.5.5.0	Fix issue when change quote in string before to insert in database - Buffer limited to 1000 for string !! Allocate dynamic buffer. Avoid to have crash when metadata string > 1000 bytes
	Mantis 233	1.5.3.0	1.5.5.0	MediaSpy log files are not properly re-initialized each day (Logger)
-	-	1.5.3.0	1.5.5.0	Set Product Version to default value 1.0.0.0
-	Mantis 138 Mantis 139 Mantis 141	1.5.2.0	1.5.3.0	Issue : - Fix CoRe Issue : Do not reinitialize list of view of storage each time MS send StorageenumerateAck() (that is when plug-in config change). - Fix Mantis issue 138 and 141 : Loose connection with database when metadata are too big. Setup default size of Metadata string to 50000 octets (ini file). **Fixes in version 0.0.0.22 of PersistentStorage.dll** - Fix Mantis 139 : Bad management of “Created” and “Updated” date in PS **Fixes in version 0.0.0.22 of PersistentStorage.dll**
-	Mantis 123	1.5.1.0	1.5.2.0	Issue : Fix Cosmetic issue - Change DCVAM into DVCAM. **Fix : Change orthography.**
-	-	1.4.1.0	1.5.1.0	Issue : push “Save” button does not always save plug-in configuration immediately but only when leave application. **Fix : Save really on disk when operator click on save button (and not only when operator leave the application)**
-	-	1.4.0.0	1.4.1.0	Issue : CoRe Issue, Media Spy send notification with FTP plugin issuing incorrect storage name **Fix : Send Storage name instead of plug-in name**.
-	-	1.3.0.0	1.4.0.0	Issue : CoRe Issue, Media Spy command mssContentGetDescription replies empty values for startTC and endTC **Fix : Fill StartTC and EnTC (if value exist)** - Add DVCAM video format for CoReService - Improve communication with CoRe and send packet of description for all updated/new media instead of one by one - Advise Core with new storage (from FTP plug-in for example) - Fix issue in database when “Created Date” is updated from plug-ins - Save Plug-in configuration on Disk stop without stopped Core Service connection. - Use last hasPlugInInspector.ocx (Fix issue with parameter

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Bug #	Bug Area (from QA report)	Issue Version	Fixed Version	Bug description Bug fixes
				not saved, i.e. FTP plug-in)
-	-	1.2.1.0	1.3.0.0	- Update Release Notes. Add information about new database supported through ODBC (SQL Server 2005 and MySQL. - Fix Minor issue with Core Service (pb of xml tag) - Fix issue with SQL2005 script.
-	-	1.2.0.0	1.2.1.0	Do not send plug-in client in storage enumerate for CoRe Service
HAS11715	-	-	1.2.1.0	VTC MediaSpy Crash - Fix issue when plug-in notify a log (Do not free OleVariant (BSTR)).
-	-	-	1.1.0.0	- Fix issue with Media Information update, - Fix issue with Logs (unable to display logs), - Fix issue when resynchronize (unable to remove media with status = resynchronize), - Fix issue when delete media (get uuidContent from database before)
-	-	0.0.0.10	0.0.0.11	**Issue** : Defect ODBC : Timeout Expired. Fix : 1°) Increase the query timeout 2°) fix error when SQL Execute of transaction send more than 65,535 bytes of data
-	-	0.0.0.9	0.0.0.10	**Issue** : Sometime when stopping plug-in the application does not respond (Deadlock) Fix : Do not kill plug-in (thread) after timeout when uninitialize plug-in even if it does not respond but wait while the plug-in stop properly.
-	-	0.0.0.9	0.0.0.10	**Issue** : If logger receive too messages, it could be deadlock the application Fix : Protect logger (and so application) by checking number of message in waiting to be logged. If this counter is bigger than 2000, purge (and loose) messages in waiting.
-	-	0.0.0.9	0.0.0.10	**Issue** : issue when receive a deleted and a inserted event for the same ID in one Fix : The Deleted request become synchronous and executed immediately (and before the check to the insert request failed).
-	-	0.0.0.8	0.0.0.9	**Issue** : When a plug-in finished its resynchronization, MediaSpy select all ID with status “resynchronizing” in persistent storage to build a deleted id list for Clients plug-ins. When two or more plug-ins resynchronize in same time, the deleted id list is corrupted. Fix : select all ID with status “resynchronizing” AND only for this plug-in (select by DeviceAlias).
-	-	0.0.0.7	0.0.0.8	**Issue** : MediaSpy application freeze when operator start manually a plug-in, start all plug-ins after, stop this plug-in and try to re-start. Fix issue when application start a or all plug-ins **Issue** : MediaSpy application freeze when two or more plug-ins try to resynchronize their contents in same time (at each device connection) Fix concurrent access to persistence thread (add critical section)

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Bug #	Bug Area (from QA report)	Issue Version	Fixed Version	Bug description Bug fixes
-	-	0.0.0.5	0.0.0.6	Fix issue when application advise client plug-in with storage information Fix issue when 2 or more plug-ins have the same GUID
-	-	0.0.0.3	0.0.0.4	**Issue** : MediaSpy application create an ini file named MediaSpy.ini in c:\winnt directory. **Fix** : Some parameters for size and position of window were saved in "c:\winnt\
-	-	0.0.0.2	0.0.0.3	**Issue** : Insert/update request failed in persistent storage if a string (ID, Title) has a quote. **Fix** : Add parsing of quote in strings , i.e. a quote must be preceded by another quote.
-	-	0.0.0.2	0.0.0.3	**Issue** :Delete transaction of media in Persistent Storage with only device alias, ID and Path. **Fix** : Add major and minor type (mandatories fields).
-	-	0.0.0.2	0.0.0.3	**Issue** : In configuration plug-in window , it is possible to erase a plug-in in the configuration when it is running. **Fix** : Add a test to check if configured plug-in is running before to erase it. In this case the erase command is canceled.
-	-	0.0.0.2	0.0.0.3	**Issue** : In configuration plug-in window , it is possible to rename a plug-in in configuration when it is running. **Fix** : Add a test to check if configured plug-in is running before to rename it. In this case the rename command is canceled.
-	-	0.0.0.2	0.0.0.3	**Issue** : In configuration plug-in window , it is possible to edit parameters of plug-in in configuration when it is running. **Fix** : Edit parameter is forbidden in this case.
-	-	0.0.0.2	0.0.0.3	**Issue** : In configuration plug-in window, when Version/Configuration view has the focus, the selection of "Version" or "Configuration" button in toolbar has no effect. **Fix** : the selection of "Version" or "Configuration" button display the good information in window
-	INST-3	0.0.0.1	0.0.0.2	**Issue** : The MediaSpy Release Notes is incorrect about the installation of SQL Server scripts. **Fix** : Change release note.
-	INST-4	0.0.0.1	0.0.0.2	**Issue** : The MediaSpy Release Notes is incorrect about the configuration of Data Source Name of SQL Server (ODBC). **Fix**: Change release note.
-	GEN-4	0.0.0.1	0.0.0.2	**Issue** : Sometimes an resource error appeared. An issue of refresh/update in main window ? (i.e. icon is copied into Harris logo and minimize and maximize application do disappear the issue) **Fix** : Refresh main window when application is initialized.
-	GEN-4-4	0.0.0.1	0.0.0.2	**Issue** : Spelling error in menu item “Configuration / Persistant Storage” instead of “Persistent” and forgetting “Client” in menu item “File/Device Status”. **Fix** : Change Persistant into Persistent.
-	CONF-3-8-1	0.0.0.1	0.0.0.2	**Issue** : In the configuration Device and Client window, There is not dialog box of confirmation before to stop plug-ins contrary to main window. **Fix** : Add dialog box of confirmation.
-	LOG-6-2	0.0.0.1	0.0.0.2	**Issue** : The menu item “Save Lines” (click right button of mouse) of log window does not save the good selected lines (Inverse index ?). **Fix** : Save with good index.
-	WP-3	0.0.0.1	0.0.0.2	**Issues** : - button and menu item “Start Persistent Storage” are grayed when plug-ins are started.

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Bug #	Bug Area (from QA report)	Issue Version	Fixed Version	Bug description Bug fixes
	WP-7 WP-9			- Resynchronization of plug-in is only send when communication with device is started and not memorized by persistent storage while this one is disconnected. - When Persistent Storage is disconnected, plug-in send notification of resynchronize for each action (issue in plug-in ?????) **Fix** : MediaSpy application stops automatically all plug-ins (Device and Clients) when the connection with persistent storage is broken (or stopped). In that case, the application will restart automatically plug-ins when the connection will become again.
- -	WP-6-3 WP-6-4	0.0.0.1	0.0.0.2	**Issue** : When resynchronize device, the "delete" action is not reflect in Persistent Storage. **Fix** : Now, Persistent storage uses all mandatory fields to update and delete transaction in database (i.e.: Device alias, ID, Path, Major Type and Minor Type).
-	LOG-3-2	0.0.0.1	0.0.0.2	**Issue** : The application does not change of log file at midnight and keep the same. **Fix** : The logger get the current time and compare with current logs file before to write each new message.
-	LOG-4	0.0.0.1	0.0.0.2	**Issue** : The application does not purge log file each 30 days as described in Engineering Release notes **Fix** : Application calls purge function when application change of logs file

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Appendix / Annex A

IMOTION Metadata

IMOTION manage metadata from device. Some of them are spied by device plug-in.

Metadata :

- Metadata are blob saved in specific table of IMOTION database (**No always need to know the metadata value for MediaSpy**)
- Metadata could be send (Get/Set) to IMOTION client through IMOTION Core API. (**not yet implemented**)
- Metadata information are not purged by external application but :
  - through "delete" notification from plug-in (automatic purge). In this case all media information and metadata are purged.
  - Manually by a maintenance operator.
- A plug-in can provide some metadata for different type. It is the Metadata Key characterized by 3 elements :
  - Name,
  - Type
  - Value.

A key is contextual to the metadata. So in some case the metadata is related to media and not necessary to a context. In this case the plug-in can use “Default” value for key name, type and value.

For each key provided by plug-in, MediaSpy will generate a unic key identifier for Metadata table. This to be able to save any metadata. If plug-in provides same key then MediaSpy will use the same key identifier to update metadata field.

2 new IMOTION tables has been created

- METADATA_KEY_DESCRIPTION :
  - Identifier : Unic Key Identifier Primary Key,
  - Name : Name gives by plug-in (Contextual),
  - Type : Type of key gives by plug-in (Contextual),
  - Value : Key value gives by plug-in.

- METADATA_INFORMATION :
  - MaterialID field, a foreign key to the primary key of the MEDIA_INFORMATION table.

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- KeyIdentifier : a foreign key to the primary key of the METADATA_KEY_DESCRIPTION.
- DataType int field, an enumeration with well defined values (eventually a foreign key to a DataTypes table, containing the possible values in future version), which tells how to interpret and what is inside o the Data field of the record.
- Data (blob) field containing the extracted data of the event.
- Date of Creation/Update

Example :

- For KLV sample : Metadata are given for a range of TC then 2 Metadata Type , StartTC/EndTC with “Name” = "StartTC", Type = "Timecode", value="value1" and “Name” = "EndTC", Type = "Timecode", value="value2". Metadata type = “KLV”, Metadata Type = “<KLV data>”

- For single thumbnail Extractor sample : Metadata Type="Thumbnail”, Metadata Value = “<binary file>”, KeyName is “CueTC”, KeyType="TC", KeyValue = “TC for thumbnail extraction”.

- For multiple thumbnail Extractor sample: Metadata Type = “Thumbnail”, Metadata Value = “<binary file>” :
  - KeyName is “SOM”, KeyType="TC", KeyValue = “TC for thumbnail extraction”,
  - KeyName is “EOM”, KeyType="TC", KeyValue = “TC for thumbnail extraction”,
  - KeyName is “CueTC”, KeyType="TC", KeyValue = “TC for thumbnail extraction”,

Device plug-in which must send Metadata in notification must fill field with following format :

```
<metadatanotification>
    <metadata type="metadata type name">
        <value>metadata value</value>
        <keys>
            <key name="key name" type="key type">key value</key>
        </keys>
    </metadata>
</metadatanotification>
```

Note tha “key” are filled when metadata is contextual to the media. Otherwise if metadata is global then Key name = hey type = key value must be filled with “Default”

KLV Example:

```
<metadatanotification>
    <metadata type="KLV">
        <value>TC</value>
        <keys>
            <key name="SOM" type="TC">22:10:00:00</key>
            <key name="EOM" type="TC">23:20:00:00</key>
        </keys>
```

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```
        </metadata>
        <metadata type="Thumbnail">
                <value>bitmap</value>
                <keys>
                        <key name="Index" type="Integer">1</key>
                 </keys>
        </metadata>
</metadatanotification>
```

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